



IMMUNE HEALTH

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IMMUNE SYSTEM



- Definition:
 - The bodily system that **protects the body** from foreign substances, by producing an immune response.

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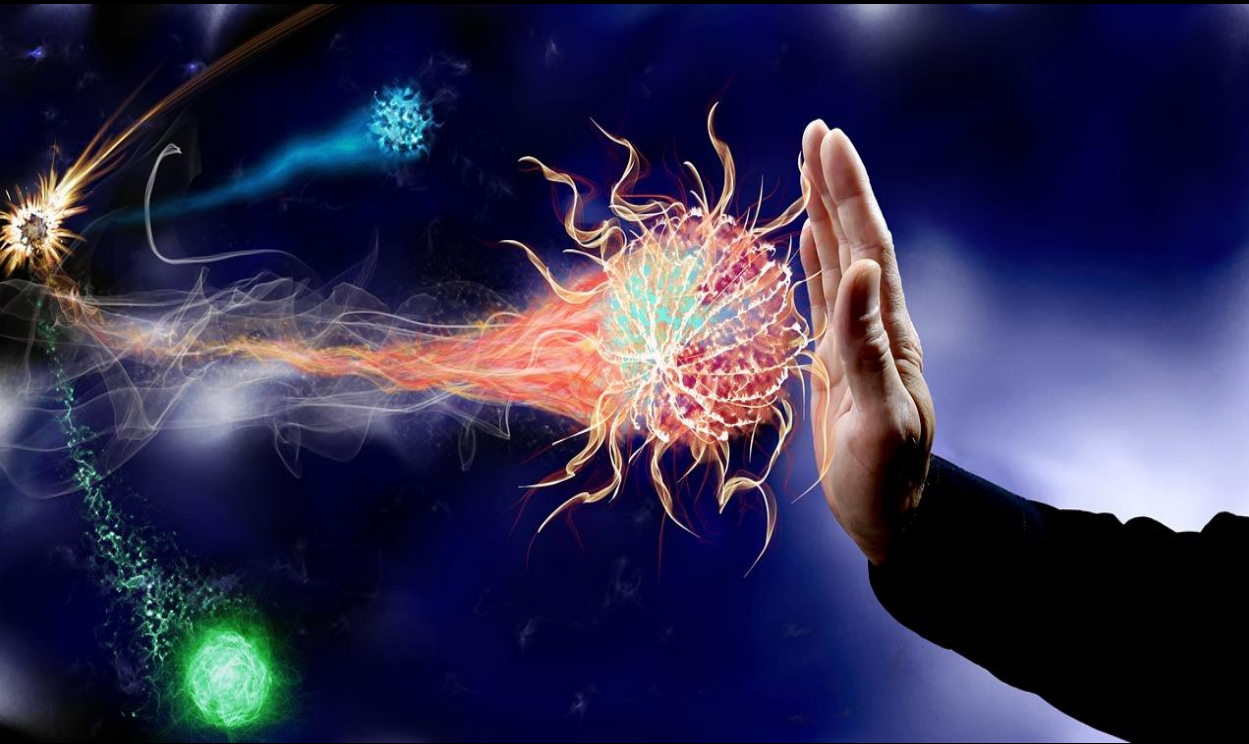
IMMUNE SYSTEM



- Definition:
 - This includes especially
 - Thymus
 - Spleen
 - Lymph nodes
 - Special deposits of lymphoid tissue (as in the GI tract and bone marrow)
 - Macrophages
 - Lymphocytes including B and T cells
 - Antibodies

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IMMUNE RESPONSE



- The immune response system
 - Produces a coordinated response to protect the host from, and remove, ongoing infection.¹
- The key is the ability to distinguish self from non-self...¹

1. <https://studentconsult.inkling.com/read/baynes-medical-biochemistry-4th/chapter-38/the-immune-response>

2. Pixabay.com

TYPES OF IMMUNE RESPONSE



1. Innate response.
 2. Adaptive response.
- **Innate response** – Natural/Nonspecific.
 - This is the body's immediate response and **first line of defense**.
 - Inflammatory response.

INNATE RESPONSE

- Innate response utilizes such things as physiochemical barriers like:
 - Skin, mucosal epithelia, and secreted products e.g. sweat, mucus, gastric acid.
- It's purpose is to limit, then repair, any damage.
- It involves:
 - Endothelial activation.
 - Increased vascular permeability.
 - Vasodilation.

ADAPTIVE RESPONSE



- **Adaptive response** – Acquired/specific
- This is brought into play if our innate defenses are unsuccessful.
- It is initiated when the lymphocytes (B cells and T cells) recognize components of the infectious agents.
- It needs time to develop and remembers what it sees.

BOOSTING YOUR IMMUNE SYSTEM



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- What does this mean?
 - Helping the immune system to function in the right manner before it is attacked by any foreign enemy.
 - Example: The army!
- There are different ways to boost the immune system.


EXERCISE



- Physical fitness helps you -
 - prevent development of an infection.
 - Better deal with an infection if you get it.¹
- Begin your exercise routine right away!

EXERCISE

- *During each bout of moderate exercise*
 - *Enhanced recirculation of immunoglobulins, neutrophils, and natural killer cells*
 - *Persists for up to 3 hours postexercise.*
- *This exercise-induced surge is transient but improves overall surveillance.*
- *Moderate exercise, on a near-daily basis for 12 to 15 weeks*
- *Number of symptom days with URI is decreased 25% to 50% compared with randomized sedentary controls.*

- 
- *Epidemiological and animal studies support this inverse relationship between URI risk and increased physical activity.*
 - *Recent evidence indicates that maintaining*
 - *Leanness.*
 - *Physically active lifestyle.*
 - *Reduces systemic inflammation.*

NUTRITION – IMMUNE PROMOTING DIET



- For a good immune function –
 - Plant-based foods.
 - Focus on foods with high antioxidants content.
 - Examples are berries, citrus, leafy greens.



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- More specifically, the plant-based diet promotes the consumption of **fruits**, **vegetables**, **legumes**, **whole grains**, **nuts/seeds**, and **herbs**.



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THINGS TO AVOID

- Avoids excess sugars, fats, and highly-processed foods, fried foods, animal products and byproducts, and other high-fat foods.



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SUNSHINE

- Maintain an optimal vitamin D level
 - Daily sunshine exposure.
 - Vitamin D3 supplementation.
- This enhances immune function.¹





SUNSHINE

- Nonclassical effects of vitamin D have been recognized for many years, but it is only recently that these have been accepted as a potentially significant component of vitamin D physiology.
- Immune cells such as macrophages contain all of the machinery required to synthesize and respond to active vitamin D, 1,25-dihydroxyvitamin D, and these functions are enhanced by challenge to the immune system.

SUNSHINE

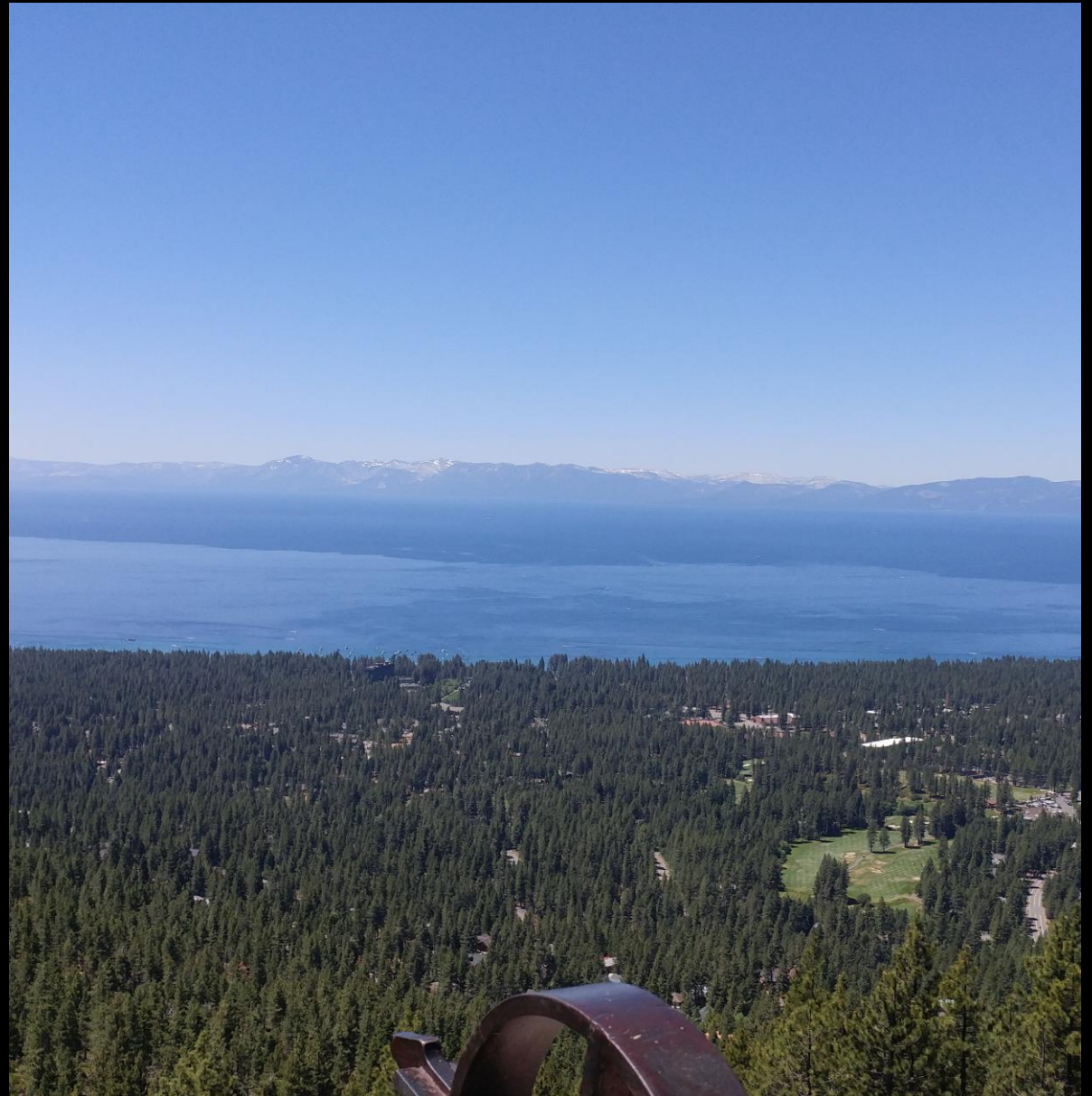
- 1,25-Dihydroxyvitamin D stimulates innate (macrophage) immunity by enhancing bacterial killing but it also modulates adaptive (lymphocyte) immunity to minimize inflammation and autoimmune disease.¹
- The virus is sensitive to ultraviolet rays *from sunlight* and heat,² so let as much sunlight into every space you occupy.

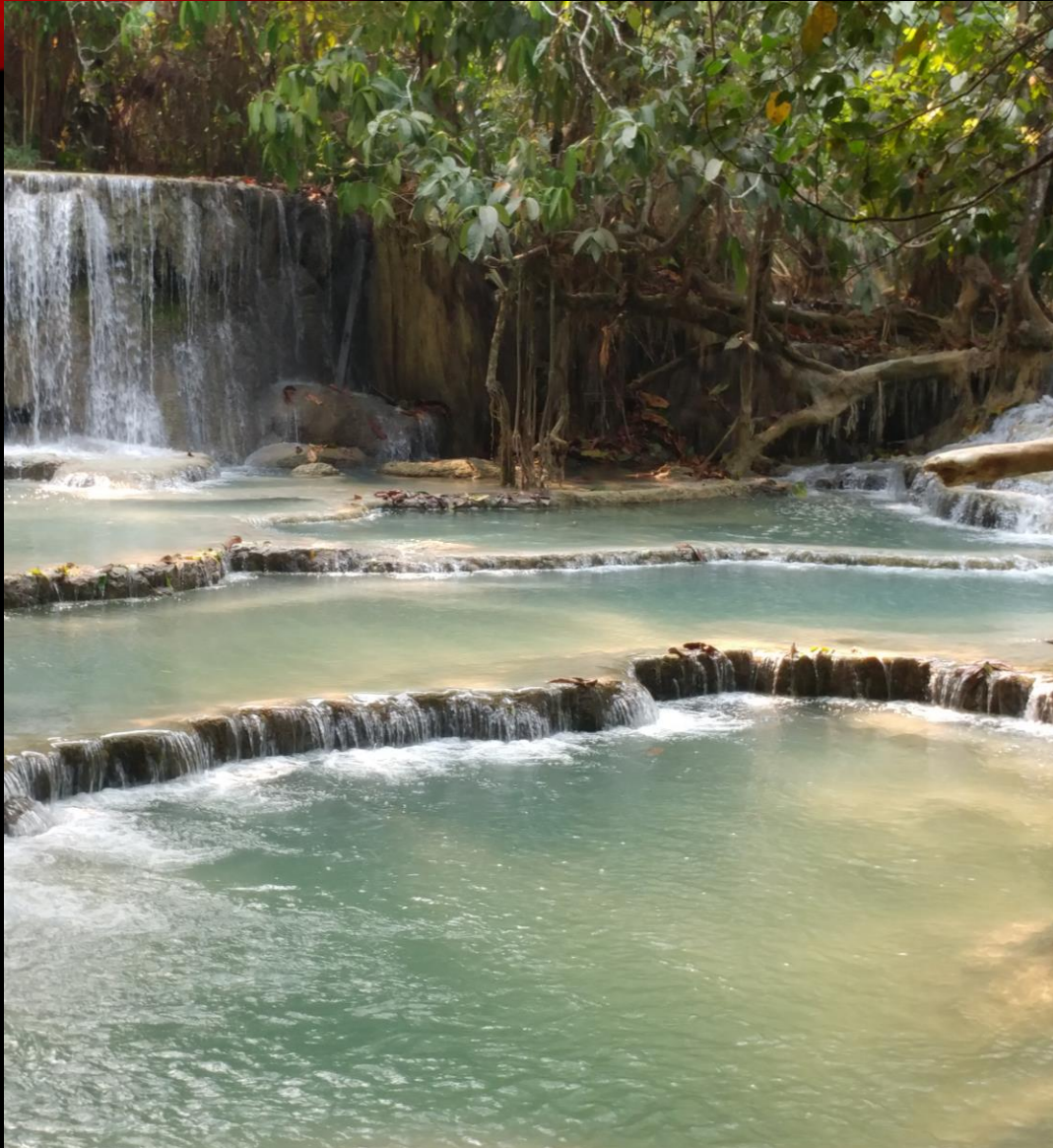
1. Adams JS, Hewison M. Unexpected actions of vitamin D: new perspectives on the regulation of innate and adaptive immunity. *Nature Clinical Practice Endocrinology & Metabolism* 4, 80-90(2008).

2. Cascella M, Rajnik M, Cuomo A, et al. Features, Evaluation and Treatment Coronavirus (COVID-19) [Updated 2020 Mar 8]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2020 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK554776/>

AIR

- Exercising outside.
- Opening windows in the house for fresh air is another way.
- All cases of known COVID-19 transmission have been in confined spaces.





WATER

Internally, helps to
keep the body
hydrated and
functioning right



Externally, can be
used in
hydrotherapy

CONTRAST SHOWER

- In your shower, alternate between hot and cold, beginning with hot and ending with cold.
- Longer hot cycle, 3 minutes, short cold cycle, 30 seconds.
- Should not be too vigorous for you or your health condition.





CAUTION

- If you have
 - Heart disease
 - Elderly
 - Balance issues
- Be very mild with temperature changes between the hot and cold (limit it to what you can tolerate well).
- Consider using a shower chair during your shower.

REST

- Complications of chronic sleep deprivation include immune suppression, thus increasing susceptibility to infections.¹
- Sleep at least 7-9 hours every night.
- The hours before midnight are very important.
- Those who are well-rested are better able to fight or resist infections.



REST

- Insufficient sleep is a risk factor, in part because of the inflammatory state that results from sleep disruption.¹
- Sleep loss has a role in mediating immune changes as experimentally induced partial night sleep deprivation induces a pattern of immune alterations similar to that found in depressed and alcoholic patients.²

TEMPERANCE

- Avoiding the harmful.
- Using wisely the good.
- Eating for health rather than taste.



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MAINTAIN A GOOD ATTITUDE

- Thoughts/attitude...Negative or positive...
- Have direct effects on immune system.
- A merry heart doeth good like a medicine...
 - Proverbs 17:22



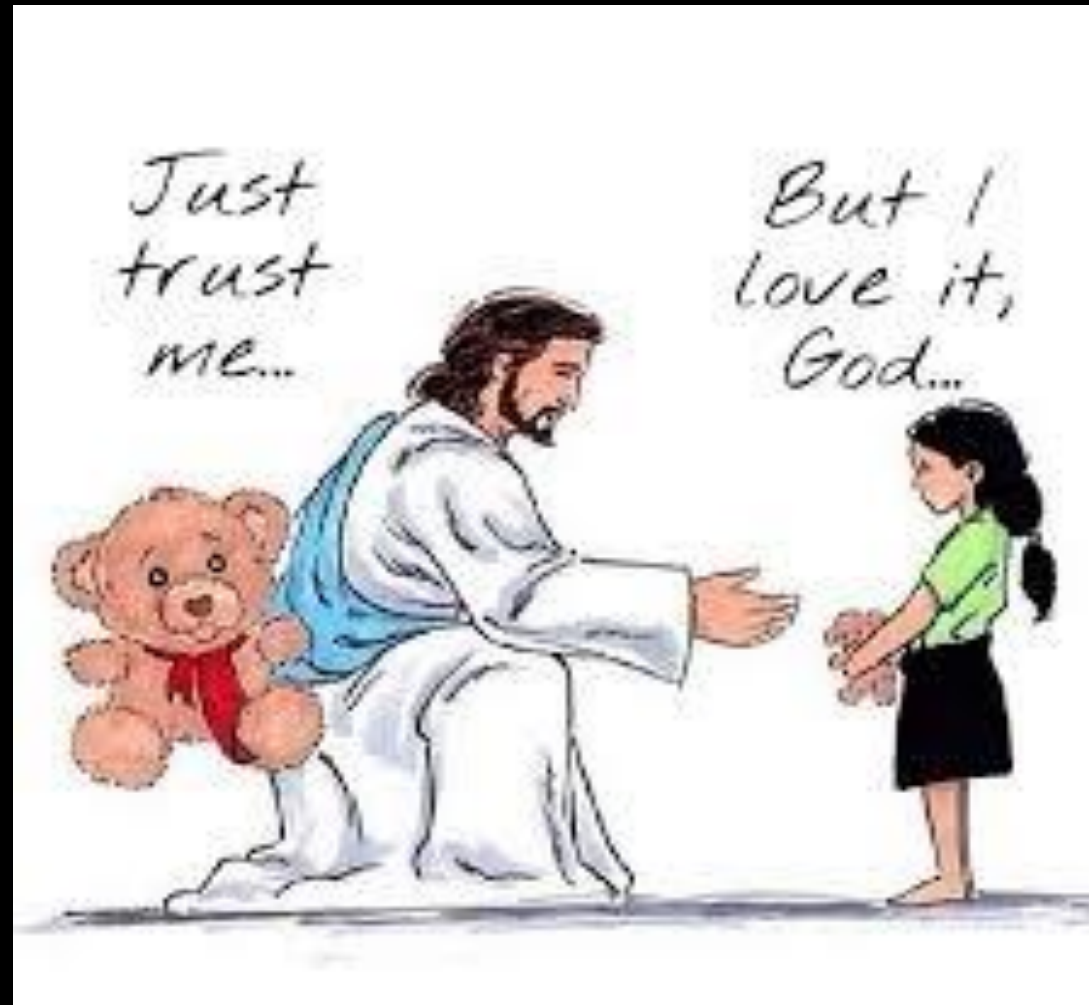
- In a study of 124 first-year law students
- Relationship between personal optimism and cell-mediated immunity (CMI)
- Relationship between personal positive or negative emotion and cell-mediated immunity (CMI).
- Result:
 - Changes in CMI across time correlated with changes in optimism.
 - When optimism increased, so did CMI.
 - When optimism decreased, so did CMI.

- Those who are
 - Joyful
 - Loving
 - Peaceful
 - Kind...etc

- ... are better able to resist infection.
- A strong relationship with God, who alone is love, decreases susceptibility to infection by improving the immune system.



TRUST IN GOD



- 
- More specific for COVID19 (Coronavirus disease 2019)

HERBS AND SUPPLEMENTS

- N-acetyl cysteine (NAC)
 - Study on adults taking 600mg of NAC twice daily for 6 months.
 - 25% had symptoms when they were infected with an influenza virus.
 - 79% of those receiving a placebo had symptoms when they were infected.¹
- Herbs that have been shown to have some anti-microbial properties:
 - Ginseng (American², Siberian³, and Panax⁴), Andrographis⁵, Thuja⁶, Wild Indigo⁷, Echinacea⁸, Elderberry⁹, Umckaloabo¹⁰, Zinc¹¹.



FOR MORE DETAILS ON THE HERBS

Go to:
Ucheepines.org
COVID19 tab

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7. Ibid.
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The background of the image is a solid black field. At the top, there is a decorative, wavy horizontal band. This band features a color gradient: on the left, it transitions from yellow to orange; on the right, it transitions from green to light blue. The colors blend into each other, creating a smooth, fluid appearance.

HYDROTHERAPY

CONTRAST SHOWER

- **Take a contrast shower** – In your shower, alternate between hot and cold, beginning with hot and ending with cold.
- Longer hot cycle, 3 minutes, short cold cycle, 30 seconds.
- Should not be too vigorous for you or your health condition.





CAUTION

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 - Balance issues
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- Consider using a shower chair during your shower.

HOT FOOT BATH

- **Take a hot foot bath** – get water as hot as you can tolerate it.
 - no more than 103°F if you are diabetic or have circulatory problems in your legs.
 - avoid entirely if you have a blood clot in your legs, have very poor circulation, or open wounds on your feet/legs)



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HOT FOOT BATH

- Wrap up in a blanket while your feet are in the hot water.
- Keep the water hot during the 20-30 minutes treatment.
- Drink water frequently during the treatment.



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HOT BATH

- **Take a hot bath**
- Keep your head cool with a washcloth and ice water.
- Work up a good sweat.
- **Caution:** If you have health conditions that stop you from running or jogging, don't do this treatment, it will make your heart pump as if you are jogging.



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HYDROTHERAPY

- If you begin to feel ill (sore throat, headache, body aches, fever, chills, etc.), we have found by experience that the following treatments can be helpful in averting the illness if you treat it early enough:

CONTRAST SHOWER

- **Take a contrast shower** – be a bit vigorous with 5-7 exchanges of hot & cold, while still taking precautions as mentioned above.



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IF SYMPTOMS PERSIST...

REST

- During the Spanish Flu pandemic:
 - Early initiation of total bedrest, until 2-3 days after fevers resolved.
 - Those who adhered to this plan were less likely to develop pneumonia.



HOT AND COLD APPLICATIONS

- Hot and cold fomentations to the chest with a hot foot bath were a regular part of the successful treatment regimen of Spanish Flu in the 1918/1919 influenza pandemic.
 - Place a Heating pad under the upper back.
 - Wrap wet cloths (fomentation pads, wet towels, hyrdocollator, moist heating pad, etc.) that are hot, but not burning hot, with a dry towel, and place over the chest for 3-5 minutes.



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HOT AND COLD APPLICATIONS

- Then rub the chest with ice water (washcloth or hand towel) for 30 seconds.
- Repeat 5-7 times for a treatment, all the time keeping the heating pad hot and the feet in a basin of hot water.
- Repeat 1-3 times daily as needed.



REHYDRATE

- Give plenty of water to drink during the illness and treatments.
- This replaces the fluid lost through sweat.



SWEATING

- The sweating can be done in a bathtub with hot water.
- It is capable of eliminating many salts, drugs, toxins, and even some viruses.¹
- Be certain to keep the head cool, or you may feel weak and dizzy after treatment is over.
- Drink enough water.



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ONION POULTICE

- Decreases cough and sputum production in cases of lower respiratory infections.
 - Blend $\frac{1}{2}$ a medium-sized onion in a blender with just enough water to make a paste.
 - Spread it on a paper towel like the onion is the sandwich filler and the paper towel is the bread
 - You have paper towel on the outside with the onion on the inside.



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ONION POULTICE

- Place it on the chest and then wrap it with plastic food wrap to secure it in place.
- Cover with a tight t-shirt and then a flannel or thick sweater and leave on overnight.
- Remove and wash off in the morning.

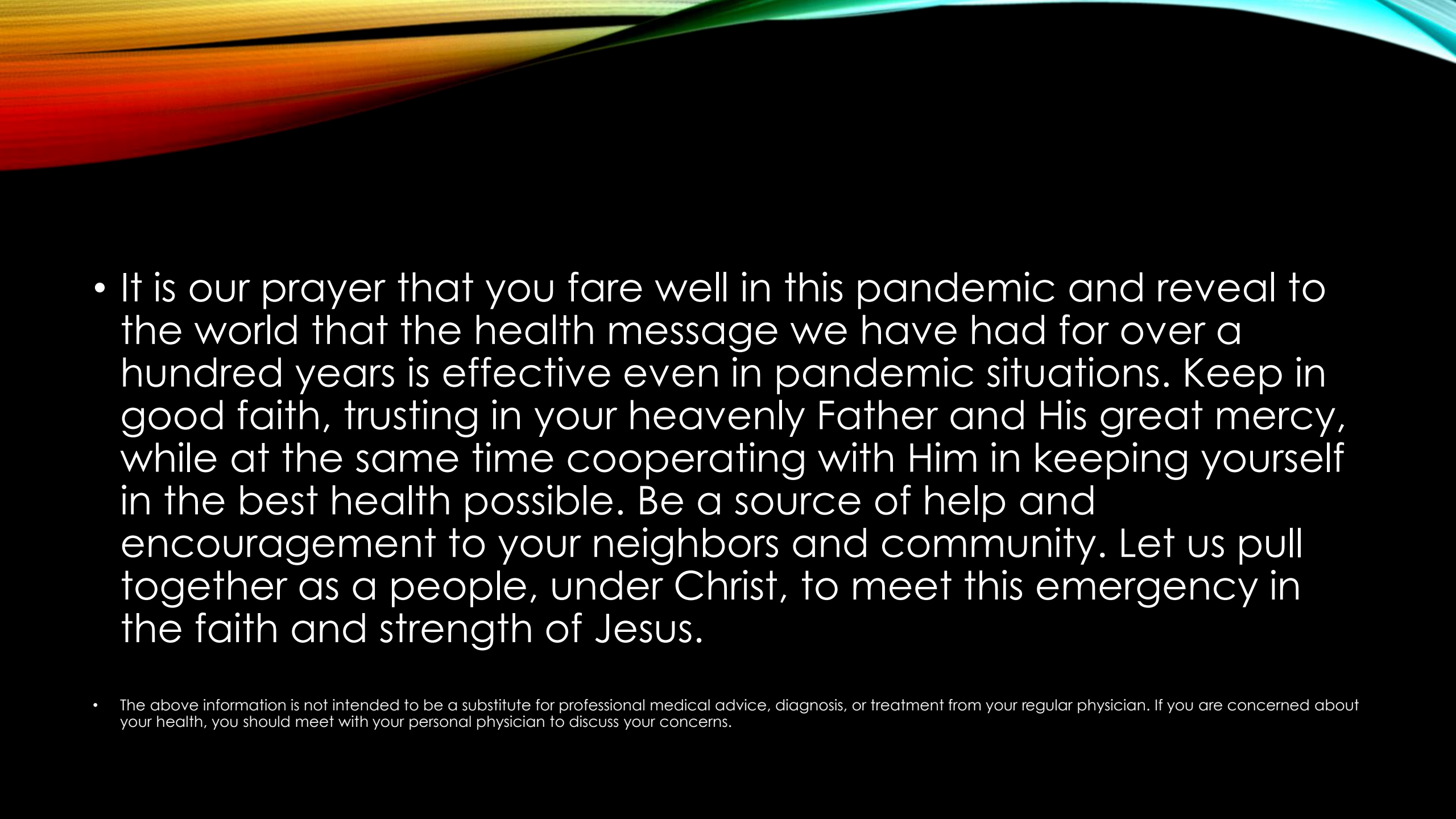


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NATURE'S PENICILLIN:

- Blend 1 orange, 1 grapefruit, 2 lemons, 3 cloves of garlic, and ½ of a large onion in a blender with enough water to just be able to blend it.
- Add 3 drops of peppermint oil and mix in.
- Drink 1 cup throughout the day.



- 
- It is our prayer that you fare well in this pandemic and reveal to the world that the health message we have had for over a hundred years is effective even in pandemic situations. Keep in good faith, trusting in your heavenly Father and His great mercy, while at the same time cooperating with Him in keeping yourself in the best health possible. Be a source of help and encouragement to your neighbors and community. Let us pull together as a people, under Christ, to meet this emergency in the faith and strength of Jesus.

- The above information is not intended to be a substitute for professional medical advice, diagnosis, or treatment from your regular physician. If you are concerned about your health, you should meet with your personal physician to discuss your concerns.

Stay SAFE

